

• AND AIR CONDITIONING EQUIPMENT

GAS HEATING •

# BRYANT

THE BRYANT HEATER CO.  
CLEVELAND • OHIO





# BRYANT GAS HEATING AND

## 26 THE COMPANY

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Over thirty years ago a small group of gas engineers perfected the first gas boiler ever made. They were Bryant Engineers.

Ever since that day, Bryant has maintained its leadership in this field by astute engineering, by steadily improving the design and efficiency of Bryant Products.

## BRYANT PRODUCTS

Whether you wish to specify gas fired boilers, unit heaters, warm air furnaces (gravity or forced air) or complete winter air conditioning, the Bryant line provides exactly the equipment you need. Or, if plans call for automatic humidifying or dehumidifying equipment, Bryant offers outstanding advantages.

## ADVANTAGES OF GAS

(1) It burns clean . . . (2) It burns silently and without odor . . . (3) Requires no storage space . . . (4) Is uniform in price . . . (5) Is uniform in quality . . . (6) Is dependable—its supply is insured against every imaginable contingency . . . (7) It leaves no stains or dirt on basement walls and floors, on sidewalks, lawns or driveways . . . (8) Gas uses equipment without moving parts to wear . . . (9) Is completely automatic . . . (10) Gas is already in a state to be burned, leaves no refuse.

## INSTALLATION

Bryant equipment is easy to assemble and comes shipped with complete erection instructions, providing a step by step procedure in written and picture form. Ease of installation is obtained without loss of time and effort.

## ENGINEERING SERVICE

The Bryant distributor or dealer in your city will help you apply the right unit to your specific problem, will aid you in estimating installation and operating costs and will coop-



The Bryant Heater Company, Cleveland, Ohio  
Office Building, Laboratory in the Distance

erate to the fullest extent in the preparation of complete plans and specifications for heating and air conditioning systems. Bryant's background includes long years of field experience in the Gas Fired Heating and Air Conditioning field.

## SALIENT FEATURES

In comparing a Bryant with other units, take these facts into consideration:

(1) Bryant has the greatest fund of engineering knowledge and manufacturing experience upon which to draw in the designing and building of gas heating and air conditioning equipment.

(2) Bryant, manufacturing gas equipment exclusively, is not forced to compromise between gas and other fuels in the design and construction of its products.

(3) Bryant Burners, because of their design, provide more economical and efficient combustion. The burner heads are cast iron and have raised drill parts to assure the proper supply of air for combustion. The burner heads and tubes are correctly proportioned by gas combustion experts.

(4) Bryant Boiler Heating Sections are of ribbed cast iron construction, with staggered gas travel, and the tubes are pitched to promote definite, rapid circulation. Bryant Fur-

nace Sections are entirely cast iron with exclusive tubular design insuring maximum heat transfer. When you select Bryant you are assured of highly efficient performance plus long years of heating satisfaction.

(5) Bryant Controls, developed by Bryant exclusively for gas operation, are accurate and reliable. They include every desired element for positive, automatic operation, for accurate regulation of temperature, and for complete protection.

(6) Every Bryant part is tested under conditions far more severe than operating requirements.

(7) Bryant finish is attractive and durable, cabinets being of heavy metal with the pleasing Bryant Blue Crackle Finish and Chromium Trim.

(8) Bryant Products are tested, rated and approved by the American Gas Association and comply with the A.S.M.E. Boiler Code.

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# AIR CONDITIONING EQUIPMENT SPECIFICATIONS

## BOILER

The Contractor shall furnish complete and erect in accordance with instructions furnished by the manufacturer, one Model .... No. .... Bryant Tubular Gas Fired Steam (Vapor or Hot Water) Boiler, as manufactured by the Bryant Heater Company, Cleveland, Ohio, with an A.G.A. Output Rating of .... square feet. This boiler to be complete with (insert proper trim S-V or W for Model 23 or 25, 443 or 455, or 63. See page 4, 5, 6).

## AIR CONDITIONER

The Contractor shall furnish complete and erect in accordance with instructions furnished by the manufacturer, one Bryant Gas Fired Winter Air Conditioner No. ...., as manufactured by the Bryant Heater Company, Cleveland, Ohio, with an A.G.A. Output Rating of .... B.t.u./hour. This conditioner to be complete with cast iron heat exchanger, centrifugal blower, air filters, pan type humidifier with adjustable float tank, motor and trim as follows (insert trim for Model 78, BA88, or VB8 Unit, see page 8, 10, 11).

The blower is to supply .... C.F.M. against a total resistance of .... inches water gauge. The motor shall have the following electrical characteristics: .... volts, .... cycle, .... phase, .... H.P.

## UNIT HEATER

The Contractor shall furnish complete and erect in accordance with instructions furnished by the manufacturer one No. .... Bryant Gas Fired Unit Heater, as manufactured by the Bryant Heater Company, Cleveland, Ohio, with an A.G.A. Input Rating of .... B.t.u./hour, Motor wound for .... volts, .... cycle, .... phase. This Unit Heater to be complete with the following trim (see Unit Heater, page 12, for proper trim).

## HUMIDIFIER

The Contractor shall furnish complete and erect in accordance with instructions furnished by the manufacturer one Model 501 Bryant Gas Fired Humidifier as manufactured by the Bryant Heater Company, Cleveland, Ohio, with the following rating: Evaporating Capacity 15 gallons per day; Gas input 20,000 B.t.u./hour; Air

Capacity 200 C.F.M.; Motor 1/60 H.P., 60 cycle, 110 volts, single phase.

The Humidifier to be complete with the following trim (insert Humidifier trim, see page 7).

## DEHUMIDIFIER

The Contractor shall furnish complete and erect in accordance with instructions furnished by the manufacturer one No. .... Bryant Gas Fired Silica Gel Dehumidifier, as manufactured by the Bryant Heater Company, Cleveland, Ohio, with the following rating: .... C.F.M., Burner rate .... B.t.u./hour, .... H.P. Fan Motor .... volts, .... cycle, .... phase. This dehumidifier to be complete with all standard trim.

A No. .... Standard Dry Air Cooler shall be furnished as part of this equipment, if so required.

## GRAVITY FURNACE

The Contractor shall furnish complete and erect in accordance with instructions furnished by the manufacturer one Bryant Gas Fired Gravity Furnace No. .... as manufactured by the Bryant Heater Company, Cleveland, Ohio, with an A.G.A. Output Rating of .... B.t.u./hour.

This equipment to be complete with cast iron heat exchanger, pan type humidifier and adjustable float tank, and the following trim (see Gravity Furnace, page 14, for proper trim).

## GENERAL (To be included as part of gas equipment specifications)

**Flue Pipe**—Connect the draft hoods on the equipment to the chimney with a .... inch galvanized iron flue pipe (see specification sheets for diameter of flue pipe required).

**Gas Pipe**—Furnish gas supply line in accordance with local requirements. (However, at no time shall the supply line diameter be smaller than the inlet diameter of the control.)

**Electrical Wiring**—The equipment shall be controlled by a Series 10 Thermostat and shall have its own circuit, separately fused.

(Unit heaters are controlled by a line voltage thermostat.)

(Humidifiers and dehumidifiers are controlled by a line voltage humidistat.)

# BRYANT EQUIPMENT INDEX AND CHECK LIST

(This Guide Does Not Attempt to Include All Building Applications)

TYPE OF BUILDING	BOILERS	WINTER AIR CONDITIONERS	FORCED AIR HEATERS	UNIT HEATERS	HUMIDIFIERS	GRAVITY FURNACES	CONVERSION BURNERS	DEHUMIDIFIERS
	PAGE 4—5—6	PAGE 8—9	PAGE 10—11	PAGE 11—12	PAGE 7	PAGE 14	PAGE 14	PAGE 7
APARTMENTS	✓	✓	✓		✓		✓	✓
AUDITORIUMS	✓	✓	✓	✓	✓	✓	✓	✓
BARBER AND BEAUTY SHOPS	✓	✓	✓	✓	✓	✓	✓	✓
CHURCHES	✓	✓	✓	✓	✓	✓	✓	✓
CLUBS	✓	✓	✓	✓	✓	✓	✓	✓
FUNERAL PARLORS	✓	✓	✓	✓	✓	✓	✓	✓
GARAGES	✓		✓	✓			✓	
HOSPITALS	✓	✓			✓		✓	✓
HOTELS	✓	✓	✓		✓		✓	✓
INDUSTRIAL PLANTS	✓		✓	✓	✓		✓	✓
LAUNDRIES	✓		✓	✓			✓	
OFFICES	✓	✓	✓	✓	✓		✓	✓
PRINTING PLANTS	✓		✓	✓	✓		✓	✓
RESIDENCES (All Types)	✓	✓	✓		✓	✓	✓	✓
RESTAURANTS	✓	✓	✓	✓		✓	✓	✓
SERVICE STATIONS	✓		✓	✓			✓	
STORES (All Types)	✓	✓	✓	✓	✓	✓	✓	✓
THEATRES	✓	✓	✓	✓	✓	✓	✓	✓
WAREHOUSES	✓		✓	✓	✓		✓	✓
WATER HEATING	✓							



# The Bryant MODEL 23 AND 25 BOILER

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Cutaway View  
of Model 25  
Boiler

The Bryant Model 25 Boiler, a compact, highly efficient heating unit designed exclusively for gas, is available in six sizes for water, steam and vapor installation, and for direct and indirect hot water storage systems. This boiler, in an asbestos insulated steel jacket finished in Bryant Blue Crackle, is equipped with exclusive Bryant throttling type controls, for positive automatic operation and accurate regulation of temperature. High operating efficiency and rapid heating is obtained with Bryant Heavily Ribbed Cast Iron Tubular Sections. This boiler is also made with exposed controls known as Model 23.

## RATINGS, HEATING SURFACES, WATER CAPACITY

Boiler No.	Available B.t.u. per hr. (Output)	A. G. A. Rating Sq. Ft.		Supplies Sq. Ft. Direct Cast Iron Radiation†		Gals. Per Hour 60° Rise	B. H. P.	Sq. Ft. of Heating Surface	Water Capacity to Water Line Gals.	Approx. Shipping Weight	
		Steam	Water	Steam	Water					23	25
3	54,000	230	360	145	230	108	1.61	16.5	2.6	505	575
4	72,000	300	480	190	310	145	2.15	22.0	3.3	575	645
5	90,000	380	600	245	385	181	2.68	27.5	4.0	660	730
6	108,000	450	720	290	460	217	3.22	33.0	4.7	725	795
7	126,000	530	840	340	540	253	3.76	38.5	5.4	815	885
8	144,000	600	960	385	615	289	4.30	44.0	6.1	885	955

†Selection factors providing for piping loss and starting load allowances are those recommended by the American Gas Association.

## STEAM TRIM FURNISHED

Bryant (Steam) or (Vapor) Throttling Control Valve; Series 10 Solenoid Valve and Transformer; Bryant Low Water Cut-off; Bryant Combination Thermo Pilot; Pop Safety Valve (Set 15 lbs.); Compound Pressure and Vacuum Gauge and Syphon; Labeled Shut-off Valve; Pilot Cock with Screw Adjustment; Drain Cock; Draft Hood (Enclosed on 25 Model); Bryant Blue Crackle Finish Cover.

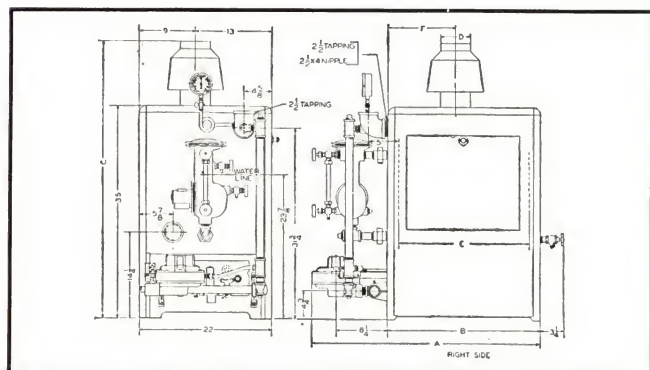
## HOT WATER TRIM FURNISHED

Bryant Throttling Control Valve; Bryant Temperature Controller; Series 10 Solenoid Valve and Transformer; Bryant Combination Thermo Pilot; Altitude Gauge and Thermometer; Labeled Shut-off Valve; Pilot Cock with Screw Adjustment; Drain Cock; Draft Hood (Enclosed on 25 Model); Bryant Blue Crackle Finish Cover.

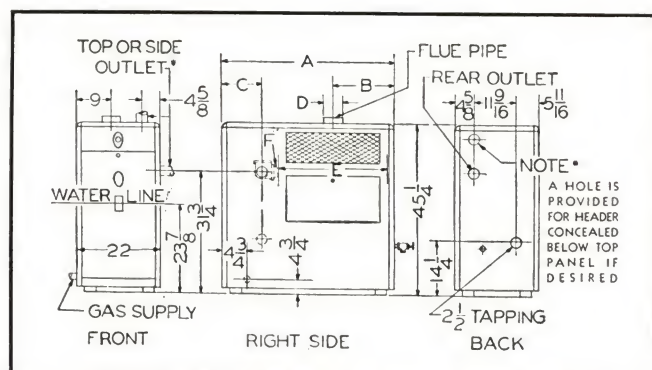
All Piping Necessary for Assembly of Controls on Boiler is Supplied

## GENERAL DATA

Boiler No.	Flows and Returns		Flue to Chimney	No. of Pilots	Control Size	Manifold Size	Pop Valve Size	Relief Valve Size	Meter Cap. Cu. Ft. per Hr.	
	No.	Size							500 B.t.u. Gas	1000 B.t.u. Gas
3	2	2 1/2"	5"	1	1"	1"	3/4"	1 1/2"	135	67
4	2	2 1/2"	5"	1	1"	1"	3/4"	1 1/2"	180	90
5	2	2 1/2"	5"	1	1"	1"	3/4"	1 1/2"	225	112
6	2	2 1/2"	5"	1	1"	1"	3/4"	1 1/2"	270	135
7	2	2 1/2"	6"	1	1"	1"	3/4"	1 1/2"	315	157
8	2	2 1/2"	6"	1	1"	1"	1"	1 1/2"	360	180



DIMENSION TABLE—MODEL 23



DIMENSION TABLE—MODEL 25

Boiler No.	Overall Width of Boiler	Overall Depth Including Trim	Depth of Jacket Only	Overall Height Including Draft Hood	Height of Jacket Only	Size of Flue	Distance Between Flow Tappings	Flow Nipple	Flue Outlet From Front Cover
	A	B	C			D	E	F	
3	22	31 1/4	19	45 1/2	35	5	12 3/4	2 1/2 x 4	7 1/2
4	22	31 1/4	19	45 1/2	35	5	15 1/8	2 1/2 x 4	7 1/2
5	22	37 5/8	25 3/8	45 1/2	35	5	19 1/8	2 1/2 x 4	11 1/8
6	22	37 5/8	25 3/8	45 1/2	35	5	22 1/8	2 1/2 x 4	11 1/8
7	22	44	31 3/4	46 1/2	35	6	25 1/2	2 1/2 x 4	14 1/8
8	22	44	31 3/4	46 1/2	35	6	28 1/2	2 1/2 x 4	14 1/8

Boiler No.	Overall Width of Boiler	Overall Height of Boiler	Overall Depth of Boiler	Flue Outlet From Back Cover	Flow Outlet From Front Cover	Size of Boiler Flue	Distance Between Flow Tappings	Flow Nipple
			A	B	C	D	E	F
3	22	45 1/4	32	11 1/8	10 1/8	5	12 3/4	2 1/2 x 3
4	22	45 1/4	32	11 1/8	10 1/8	5	15 1/8	2 1/2 x 3
5	22	45 1/4	38 3/8	14 1/2	10 1/8	5	19 1/8	2 1/2 x 3
6	22	45 1/4	38 3/8	14 1/2	10 1/8	5	22 1/8	2 1/2 x 3
7	22	45 1/4	44 3/4	17 1/2	10 1/8	6	25 1/2	2 1/2 x 3
8	22	45 1/4	44 3/4	17 1/2	10 1/8	6	28 1/2	2 1/2 x 3



# The Bryant MODEL 443 AND 455 BOILER

The Bryant Model 455 Boiler is built in eleven sizes covering the average range of steam, hot water, and vapor installations, also available for direct and indirect hot water storage systems. The water tube sections are of cast iron, and are designed to provide a staggered gas travel and ribbed to present a maximum area of heat absorbing surface—features of construction which are inherent with durability and high efficiency. Bryant gas-actuated controls, developed over a period of years, assure completely automatic and trouble-free operation throughout the long life of the Model 455 Boiler. . . . The metal jacket of attractive Bryant blue crackle finish is lined with asbestos insulation. This boiler is also made with exposed controls and is known as Model 443.

## RATINGS, HEATING SURFACES, WATER CAPACITY

Boiler No.	Available B.t.u. per hour (output)	A.G.A. Rating sq. ft.		Supplies sq. ft. of Direct C. I. Radiation†		Gals. per Hour Rise 60°	B.h.p.	Sq. ft. of Heating Surface	Water Capacity to Water line, Gal.	Size flow and return tappings, in.	Approx. Ship. Wt.	
		Steam	Water	Steam	Water						443	455
3	158,400	660	1060	425	685	317	4.73	41.7	17.8	4	1180	1350
4	211,200	880	1410	565	920	422	6.30	55.1	22.2	4	1395	1550
5	264,000	1100	1760	710	1160	528	7.88	68.5	26.2	4	1605	1760
6	316,800	1320	2110	860	1410	634	9.55	81.9	31.0	4	1815	1975
7	369,600	1540	2460	1010	1665	739	11.00	95.3	35.4	4	2055	2235
8	422,400	1760	2820	1160	1935	845	12.60	108.7	39.8	4	2275	2500
9	475,200	1980	3170	1320	2190	950	14.20	122.1	44.2	4	2465	2755
10	528,000	2200	3520	1470	2445	1055	15.73	135.5	48.6	4	2770	2965
11	580,800	2420	3870	1640	2695	1160	17.30	148.9	53.0	4	2990	3200
12	633,600	2640	4220	1790	2960	1270	18.90	162.3	57.4	4	3225	3420
13	686,400	2860	4580	1965	3230	1370	20.50	175.7	61.8	4	3475	3700

†Selection factors providing for piping loss and starting load allowances are those recommended by the American Gas Association.



Cutaway View of Model 455 Boiler

## STEAM TRIM FURNISHED

Bryant Boiler Control (steam pressure governor and low water cut-off), Series 10 Solenoid Valve and Transformer, Bryant Throttling Control Valve, Bryant Combination Thermostatic Pilot and Escapement Burner, Pop Safety Valve (set 15 lb.), Bryant Gas Pressure Regulator, Labeled Shut-off Valve, Compound Pressure and Vacuum Gauge and Siphon, Water Level Gauge, Metal Jacketed Cover of Bryant Blue Crackle Finish, Draft Hood (Enclosed on 455 Model), Drain Cocks.

## HOT WATER TRIM FURNISHED

Gas-Actuated Limit Control, Bryant Combination Thermostatic Pilot and Escapement Burner, Series 10 Solenoid Valve and Transformer, Bryant Diaphragm Snap Valve, Bryant Gas Pressure Regulator, Labeled Shut-off Valve, Altitude Gauge and Thermometer, Metal Jacketed Cover of Bryant Blue Crackle Finish, Draft Hood (Enclosed on 455 Model), Drain Cocks.

## GENERAL DATA

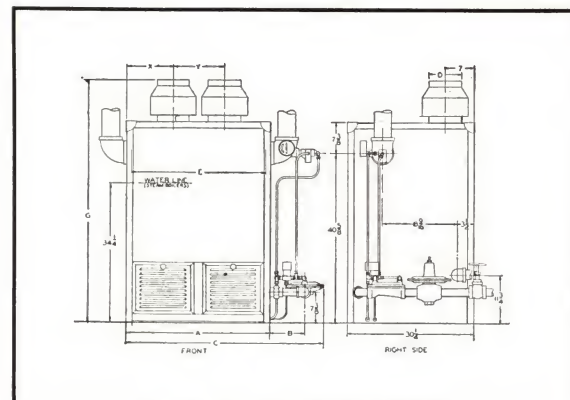
Boiler No.	Flows and Returns		Flue to Chimney	No. of Pilots	Control Size	Manifold Size	Pop Valve Size	Relief Valve Size	Drain Cocks		Meter Capacity Cu. Ft.	
	No.	Size							No.	Size	500 B.t.u. Gas	1000 B.t.u. Gas
3	2	4"	7"	1	1"	1 1/4"	1"	3/4"	2	3/4"	396	198
4	2	4"	7"	1	1"	1 1/4"	1"	3/4"	2	3/4"	528	264
5	2	4"	8"	2	1 1/4"	1 1/4"	1 1/4"	3/4"	2	3/4"	660	330
6	2	4"	9"	2	1 1/4"	1 1/4"	1 1/4"	1"	2	3/4"	792	396
7	2	4"	9"	3	1 1/2"	1 1/4"	1 1/2"	1"	2	3/4"	924	462
8	2	4"	10"	4	1 1/2"	1 1/2"	1 1/2"	1"	2	3/4"	1056	528
9	2	4"	11"	4	1 1/2"	1 1/2"	1 1/2"	1"	2	3/4"	1188	594
10	2	4"	11"	4	1 1/2"	1 1/2"	1 1/2"	1 1/4"	2	3/4"	1320	660
11	2	4"	12"	4	2"	2"	2"	1 1/4"	2	3/4"	1452	726
12	2	4"	12"	4	2"	2"	2"	1 1/4"	2	3/4"	1584	792
13	2	4"	12"	5	2"	2"	2"	1 1/4"	2	3/4"	1716	858

## BOILER DIMENSIONS—MODEL 443

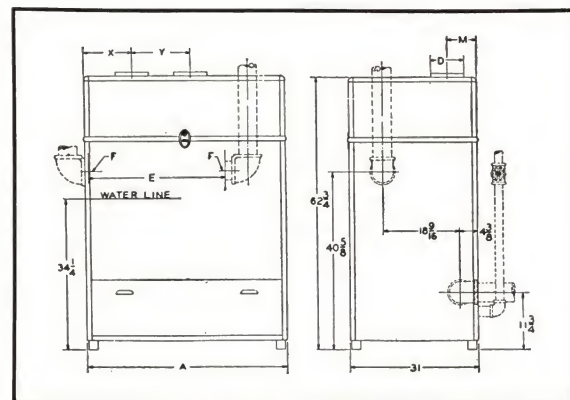
	A	B	C	D	E	G	X	Y
3	16 1/4"	7 1/8"	26 5/8"	One—7"	14 1/2"	60 1/2"	8 1/8"	.....
4	19 7/8"	7 1/8"	30 3/8"	One—7"	18 1/2"	60 1/2"	9 1/8"	.....
5	23 1/2"	7 1/8"	35 1/8"	One—8"	21 3/4"	60 1/2"	11 3/4"	.....
6	27 1/8"	7 1/8"	39 1/8"	One—9"	25 3/8"	61"	13 5/8"	.....
7	30 3/4"	8 1/4"	44 3/8"	One—9"	29 3/8"	61"	15 3/8"	.....
8	34 3/8"	8 1/4"	48 3/8"	One—10"	32 5/8"	64 1/2"	17 1/8"	.....
9	38"	8 1/4"	51 5/8"	Two—8"	36 1/4"	60 1/2"	11 3/4"	14 3/8"
10	41 5/8"	8 1/4"	55 1/4"	Two—8"	39 7/8"	60 1/2"	11 3/4"	17 1/8"
11	45 1/4"	7 1/4"	57 7/8"	Two—9"	43 1/2"	61"	11 3/4"	21 3/4"
12	48 7/8"	7 1/4"	61 1/2"	Two—9"	47 1/8"	61"	11 3/4"	25 3/8"
13	52 1/2"	7 1/4"	65 1/8"	Three—8"	50 3/4"	60 1/2"	11 3/4"	14 1/8"

## BOILER DIMENSIONS—MODEL 455

	A	D	M	X	Y	E	F
3	30 1/8"	One—7"	7 1/8"	7 1/8"	.....	14 1/2"	4 x 3
4	33 3/4"	One—7"	7 1/8"	9 3/4"	.....	18 1/8"	4 x 3
5	37 3/8"	One—8"	7 1/8"	11 9/16"	.....	21 3/4"	4 x 3
6	41"	One—9"	8 5/8"	13 3/8"	.....	25 3/8"	4 x 3
7	44 5/8"	One—9"	11 3/8"	15 3/8"	.....	29"	4 x 3
8	48 1/4"	One—10"	11 3/8"	17"	.....	32 5/8"	4 x 3
9	51 7/8"	Two—8"	7 1/8"	11 3/4"	.....	14 1/8"	4 x 3
10	55 1/2"	Two—8"	7 1/8"	11 3/8"	.....	17 7/8"	4 x 3
11	59 1/8"	Two—9"	8 7/8"	11 9/16"	.....	21 3/8"	4 x 3
12	62 3/4"	Two—9"	8 7/8"	11 9/16"	.....	25 3/8"	4 x 3
13	66 3/8"	Three—8"	7 1/8"	11 3/4"	.....	14 1/8"	4 x 3



Model 443—Dimensional Drawing



Model 455—Dimensional Drawing



# The Bryant MODEL 63 BOILER

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Cutaway View  
of Model 63 Boiler

The Model 63 Bryant Boiler is available in twelve sizes for large steam, hot water and vapor heating systems, and for indirect hot water storage systems. The cast iron sections are tubular with heavily ribbed sides and staggered gas travel which contributes to maximum efficiency. The water tubes are pitched to accelerate circulation throughout the height of the section. The sections, draft hoods, burner equipment and manifold are completely enclosed in an attractive insulated metal jacket.

## RATINGS, HEATING SURFACES, WATER CAPACITY

Boiler No.	Available B.t.u. per hour (output)	A.G.A. Rating sq. ft.		Supplies sq. ft. of Direct C. I. Radiation†		Gals. per Hour 60° Rise	B.h.p.	Sq. ft. of Heating Surface	Water Capacity to Water line, Gal.	Meter Capacity cu. ft.		Approx. Ship. Wt.
		Steam	Water	Steam	Water					500 B.t.u. Gas	1000 B.t.u. Gas	
8	710,400	2960	4740	2040	3345	1430	21.20	197.0	99.9	1776	888	4400
10	888,000	3700	5920	2575	4225	1780	26.50	246.0	122.1	2220	1110	5200
12	1,065,600	4440	7100	3120	5070	2140	31.80	294.0	144.3	2664	1332	6100
14	1,243,200	5180	8290	3680	5915	2490	37.10	343.0	166.5	3108	1554	6850
16	1,420,800	5920	9470	4230	6760	2850	42.40	391.0	188.7	3552	1776	7600
18	1,598,400	6660	10660	4760	7610	3200	47.70	440.0	210.9	3996	1998	8400
20	1,776,000	7400	11840	5280	8460	3550	53.00	488.0	233.1	4440	2220	9220
22	1,953,600	8140	13020	5810	9300	3910	58.30	537.0	255.3	4884	2442	10025
24	2,131,200	8880	14210	6340	10150	4260	63.60	585.0	277.5	5328	2664	11020
26	2,308,800	9620	15390	6870	10970	4630	68.90	634.0	299.7	5772	2886	11630
28	2,486,400	10360	16580	7400	11830	4980	74.20	682.0	321.9	6216	3108	12535
30	2,664,000	11100	17760	7930	12670	5330	79.50	731.0	344.1	6660	3330	13450

†Selection factors providing for piping loss and starting load allowances are those recommended by the American Gas Association.

## STEAM TRIM FURNISHED

Bryant Boiler Control (combined steam pressure governor and low water cut-off), Series 10 Solenoid Valve and Transformer, Bryant Throttling Control Valve, Bryant Combination Thermostatic Pilot and Escapement Burner, Pop Safety Valve (Set 15 lbs.), Bryant Gas Pressure Regulator, Labeled Shut-off Valve, Compound Pressure and Vacuum Gauge and Siphon, Water Level Gauge, Metal Jacketed Cover, Draft Hood, Drain Cocks.

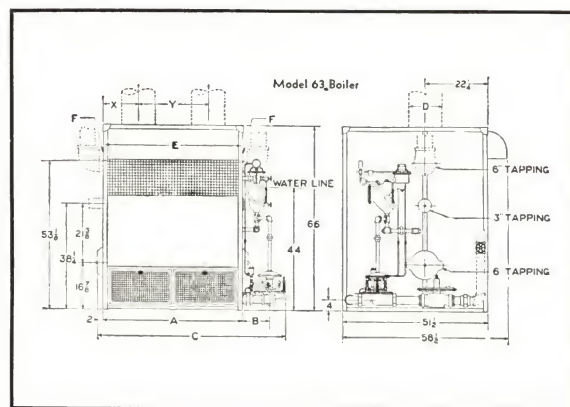
## HOT WATER TRIM FURNISHED

Gas-Actuated Limit Control, Bryant Combination Thermostatic Pilot and Escapement Burner, Series 10 Solenoid Valve and Transformer, Bryant Diaphragm Snap Valve, Bryant Gas Pressure Regulator, Labeled Shut-off Valve, Altitude Gauge and Thermometer, Metal Jacketed Cover, Draft Hood, Drain Cocks.

## GENERAL DATA

Boiler No.	Size Flow and Return Tappings*	Flue to Chimney	No. of Pilots	Control Size	Manifold Size	Pop Valve Size	Drain Cocks No.	Size
8	6"	14"	2	2"	2"	2"	2	3/4"
10	6"	16"	3	2"	2"	2"	2	3/4"
12	6"	16"	4	2 1/2"	2 1/2"	2 1/2"	2	3/4"
14	6"	18"	4	2 1/2"	2 1/2"	2 1/2"	2	3/4"
16	6"	20"	5	2 1/2"	2 1/2"	2 1/2"	2	3/4"
18	6"	20"	6	2 1/2"	2 1/2"	3"	2	3/4"
20	6"	20"	6	2 1/2"	2 1/2"	3"	2	3/4"
22	6"	20"	7	3"	3"	3"	2	3/4"
24	6"	22"	7	3"	3"	3"	2	3/4"
26	6"	24"	8	3"	3"	3 1/2"	2	3/4"
28	6"	24"	9	3"	3"	3 1/2"	2	3/4"
30	6"	26"	9	3"	3"	3 1/2"	2	3/4"

\*6-in. boilers have two additional return tappings for 3-in. pipe, located 6 in. below the water line. Do not bush flow tappings; use reducing elbows if necessary.



## BOILER DIMENSIONS

Boiler No.	Width of Boiler A	To CL of Trim B	Over-all Width C	No. and Size of Boiler Flues D	Flue Outlet from Side Cover X	Distance between Flue Outlets Y	Size of Flue to Chimney	Width between Flow Tappings E	Flow Nipples and Returns F	Height including Draft Hood G
8	35	10	50 1/4	One-14	17 1/2	...	14	33 1/2	Two-6x3 1/4	66
10	42 1/4	10	57 1/2	Two-12	10 5/8	21	16	40 3/4	Two-6x3 1/4	66
12	49 1/2	10	66 1/2	Two-12	12 3/8	24 3/4	16	48	Two-6x3 1/4	66
14	56 3/4	10	73 3/4	Two-14	14 5/8	28 3/8	18	55 1/4	Two-6x3 1/4	65
16	64	10	81	Two-14	14 5/8	35 5/8	20	62 1/2	Two-6x3 1/4	66
18	71 1/4	10	88 1/4	Three-12	12 3/8	23 1/4	20	69 3/4	Two-6x3 1/4	66
20	78 1/2	10	95 1/2	Three-14	14 5/8	25 1/8	20	77	Two-6x3 1/4	65
22	85 3/4	9 3/4	102 1/2	Three-14	14 5/8	28 1/8	20	84 1/4	Two-6x3 1/4	65
24	93	9 3/4	104 3/4	Three-14	14 5/8	32 5/16	22	91 1/2	Two-6x3 1/4	66
26	100 1/4	9 3/4	117	Four-14	14 5/8	25 3/8	24	98 3/4	Two-6x3 1/4	66
28	107 1/2	9 3/4	124 1/4	Four-14	14 5/8	25 3/8	24	106	Two-6x3 1/4	66
30	114 3/4	9 3/4	131 1/2	Four-14	14 5/8	32 5/16	26	113 1/4	Two-6x3 1/4	66

\*\*Two center flue outlets on No. 26 boiler are 21 3/4 in. apart; No. 28 boiler, 29 in. apart; No. 30 boiler, 21 3/4 in. apart.



# The Bryant SILICA GEL DEHUMIDIFIER

The essential elements of both comfort and industrial air conditioning are the control of the two distinctly different properties of air—humidity and temperature.

The Bryant Dehumidifier removes moisture from air by the process of physical adsorption. With this method, the moisture carried in the air in the form of vapor (humidity) is condensed within the pores of Silica Gel, (the most effective solid absorbent known), transforming the latent heat into sensible heat, which is subsequently removed by surface coolers. The Silica Gel beds are reactivated by passing air, heated by a gas burner, over them. This permits the beds to be used continuously without changing the Gel. Humidity in air is thus controlled by this dehumidifier as a direct operation without resort to low temperature cooling. Temperature control is accomplished as a separate and distinct operation by whatever means is best and cheapest for the particular installation.

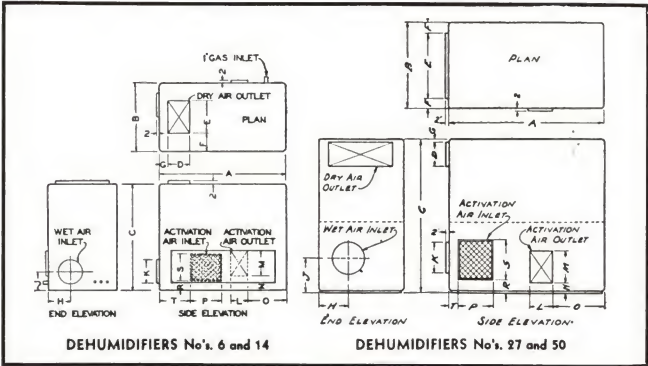


Cutaway View  
of No. 6 Silica Gel  
Dehumidifier

## SPECIFICATIONS

Unit No.	Air Capacity		Gas Consumption B.t.u. / Hr.	Burner Rate B.t.u. / Hr.	Power K.W. H.	Fan Motor H.P.	Damper Motor H.P.	Snap Valve	Standard Power Characteristics	Alternate Power Characteristics	Approx. Shipping Weight, Lbs.
	C.F.M.	Lbs. Min.									
6	600	42.8	70,000	100,000	0.60	1/2	1/8	1"	110 Volts, single phase, 60 cycle	220 Volts, single phase, 60 cycle; 115 Volts D.C.; 230 Volts D.C.	900
14	1300	92.8	147,000	210,000	1.63	1 1/2	1/8	1"	220 Volts, single phase, 60 cycle	220 Volts, three phase, 60 cycle; 230 Volts D.C.	1600
27	2700	193	262,000	375,000	3.00	3	1/8	1 1/4"	220 Volts, three phase, 60 cycle	220 Volts, single phase, 60 cycle; 230 Volts D.C.	4000
50	5000	357	525,000	750,000	5.00	5	1/8	2"	220 Volts, three phase, 60 cycle	440 Volts, three phase, 60 cycle; 230 Volts D.C.	7000

° Note—All alternating current units must be furnished with a 110 volt single phase service to operate the control circuit, and all direct current units must have 115 volt D.C. service for control circuit.



## DIMENSIONS

No.	A	B	C	D	E	F	G	H	J
6	57	30	46 5/8	9	14	8	4	9 5/8	8 3/8
14	66	37	59 5/8	13	15 1/2	10 3/4	3 1/4	11 1/2	9 3/8
27	93 1/2	50 1/2	79 1/2	11 3/4	39 1/8	5 1/2	1 5/8	16 1/2	16
50	120 1/4	66 1/2	118 1/8	19 1/8	50 1/8	8	2	21 3/8	26 1/2

No.	K	L	M	N	O	P	R	S	T	WA	DA	AA
6	10	7 1/8	10 1/2	6 5/8	17 1/8	14	4	12	13 1/2	95	95	70
14	13 1/2	8 3/8	11 3/4	7 1/4	21 3/8	26	6 3/4	13	7 1/4	200	200	100
27	16 1/8	11 3/4	15	4 7/8	32	35	3	20	8 1/4	400	400	200
50	25	18 3/4	25 1/2	6 3/4	40	27	8 1/8	32	7	800	800	475

Note—Columns WA, DA and AA give the minimum areas recommended for the wet air inlet, dry air outlet and activation air outlet ducts, in square inches.

# The Bryant MODEL 501 GAS FIRED HUMIDIFIER

The Bryant Gas-Fired Humidifier is a supplementary unit for maintaining the proper degree of humidity in homes, offices, stores or other interiors where healthful comfort is desired.

It operates as a completely independent unit and can therefore be used with any type of heating system—steam, vapor, hot water or warm air—regardless of the fuel used for heating. Compact in size, the dimensions are 46 5/8 in. long, 17 5/8 in. wide, and 14 1/8 in. high.

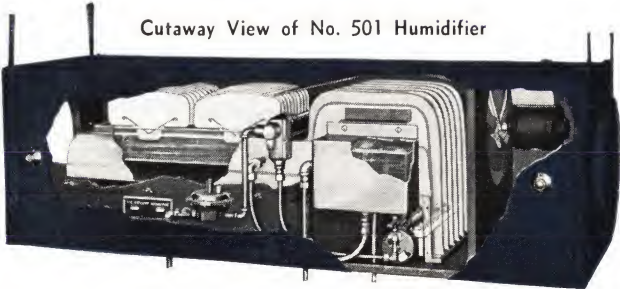
## RATINGS

Evaporating Capacity ..... 10 Gallons per Day  
Gas Input ..... 15,000 B.t.u. per Hour  
Air Capacity ..... 200 Cubic Feet per Minute  
Fan Motor ..... 1/60 Horsepower  
Net Weight, 180 pounds ..... Shipping Weight, 220 pounds

## STANDARD EQUIPMENT

- Porous Refractory Evaporating Plates
- Porcelain Finished Water Pan
- Automatic Float Tank
- Cast Iron Finned Heat Exchanger for Preheating Air
- Cast Iron Combustion Chamber and Raised Drilled-port burner
- Thermostatic Safety Control

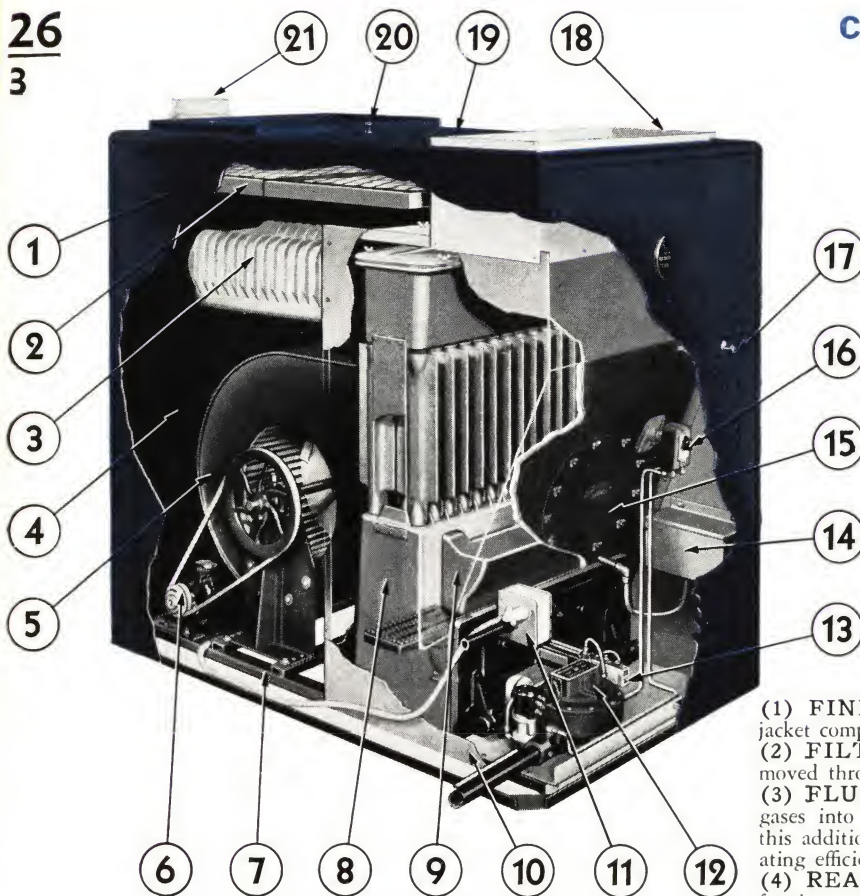
- Snap-acting Thermostatic Gas Valve
- 1/60 H.P. Fan Motor with Rubber Insulated Mounting Bracket
- 8" Propeller Fan
- Gas Pressure Regulator
- Gas Cock
- Horizontal Draft Hood
- Bryant Blue Crackle Finished Jacket
- Strap Hanger Supports





# The Bryant MODEL AC-78 WINTER AIR CONDITIONER

26  
3



Cutaway View of 132-AC-78 Winter Air Conditioner

## COMPLETELY FITTED WITH . . .

Bryant Warm Air Throttling Control Valve  
Bryant Temperature Controller  
Bryant Combination Thermostatic Pilot  
Series 10 Solenoid Valve and Transformer  
No. T-11-A Room Thermostat  
Pan Humidifier and Adjustable Float Tank  
110V-220V Interchangeable Fan Motor with  
Built-in Motor Overload Protector  
Fan Control  
Extra Large Capacity Blower Fan  
Adjustable Pulley and Belt Drive  
Junction Box Assembly with all Conduit Connections  
Exterior Pilot Lighter—Push Button Type  
All Cast Iron Heating Section—Exclusive Streamline Tubular Design  
Ribbed Cast Iron Flue Economizer  
Cast Iron Burner Heads—Raised Drilled Ports  
Complete Inner Pressure Chamber  
Bryant Blue Crackle Finished Cover  
Large Removable Doors for Access to Control and Fan Chambers  
Removable Summer Air Door  
Dustop Air Filters  
Draft Diverter  
Gate Valve  
Pilot Cock—with Screw Adjustment

(1) **FINISH**—Bryant Blue Crackle Finished, heavy gauge steel jacket completely enclosing all component parts.

(2) **FILTERS**—Large in area, are conveniently inspected or removed through top door.

(3) **FLUE ECONOMIZER**—Of cast iron divides the flue gases into two separate passages. Surrounded by return air flow, this additional effective heat transfer surface insures maximum operating efficiency.

(4) **REAR PANEL**—Removable, providing access for motor and fan inspection and oiling.

(5) **BLOWER FAN**—Is extra large, 16" in diameter by 16" wide. Moves large volumes of air at very slow fan speeds. . . . Eliminates fan vibrations and reduces air noise to an absolute minimum.

(6) **FAN MOTOR**—Is the rubber mounted capacitor type, eliminating all operating noises and radio interference, slotted motor base and adjustable motor pulley for adjusting fan speeds to installation requirements.

(7) **BASE**—Motor, fan, heating section, and base plate bolted to heavy steel base channels extending the entire depth of the unit, permitting exact alignment of all parts despite uneven basement floors.

(8) **HEATING SECTION**—Is all cast iron. Exclusive staggered, streamlined, tubular design. All joints accurately machined for pressure tightness.

(9) **HUMIDIFIER**—Cast iron humidifier pan located in the best position for rapid water heating. The surface of the water is swept with warm air producing a very high rate of evaporation. The pan is triangular in cross section for regulation of exposed water surface and resulting evaporating capacity.

(10) **HEATING CHAMBER**—Complete inner pressure chamber enclosing blower outlet and heating section. This inner chamber is blanketed by return air, eliminating radiation losses and costly leakage of warm air to the basement.

## GENERAL DESCRIPTION

The Bryant Model AC-78 Winter Air Conditioner is a compact, highly efficient gas-fired unit which very effectively performs the four functions of complete winter air conditioning; namely, heating, large volume air circulation, humidification, and air cleaning.

**EFFICIENT**—The all cast iron heating section, with its exclusive streamlined tubular design and the ribbed cast iron flue economizer, insures heating efficiencies heretofore thought unattainable with forced air equipment. Reliable Bryant time-tested controls insure carefree, automatic operation.

**HEALTHFUL**—The gas-actuated throttling control system assures a more healthful living condition because of the longer periods of full air circulation. This eliminates stagnant air conditions and uncomfortable temperature stratification.

**ATTRACTIVE**—The unit is completely enclosed in a Bryant Blue Crackle Finished metal jacket with polished chromium trim. The pleasing proportions and attractive exterior of the Model AC-78 are in harmony with modern basement design.

## RATINGS

Unit Number	A.G.A. Input B.t.u./Hr.	A.G.A. Output B.t.u./Hr.	Motor		Fan		Size of Control Valve	Number of 16"x25" Filters	Approx. Shipping Weight
			H.P.	Watts	*C.f.m.	No. Size			
100-AC-78	100,000	80,000	1/4	285	1000	1 16"x16"	1"	2	1100
132-AC-78	132,000	105,600	1/3	350	1300	1 16"x16"	1"	2	1250
200-AC-78	200,000	160,000	1/2	510	2000	2 16"x16"	1"	4	2000
264-AC-78	264,000	211,200	1/2	510	2600	2 16"x16"	1"	4	2300
300-AC-78	300,000	240,000	3/4	785	3000	3 16"x16"	1"	6	3000
364-AC-78	364,000	291,200	3/4	785	3600	3 16"x16"	1"	6	3450

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\*The large 16 in. diameter x 16 in. wide fan wheels furnished as standard equipment have ample reserve capacities.



# The Bryant MODEL AC-78 WINTER AIR CONDITIONER

(11) **ELECTRICAL JUNCTION BOX** — Shipped completely assembled with conduit connections, transformer mounted in place.

(12) **THROTTLING VALVE** — This compact, multiple-function control valve unfailingly and accurately governs the fuel supply to fulfill completely the most exacting comfort and safety requirements. It very effectively performs the following four individual operations: (1) "On" and "Off" control in response to the room thermostat; (2) Pressure regulation; (3) Throttling of the gas supply to maintain a constant bonnet temperature; (4) High limit cut-off at a fixed bonnet temperature. The large momentary flare of the pilot and full line pressure to the burners at the instant of burner ignition provide an ideal and positive lighting condition at all times.

(13) **PILOT** — The Bryant combination thermostatic pilot and escapement burner is operated from outside by push button on front.

(14) **FLOAT TANK** — Copper with adjustable water level feature.

(15) **HUMIDIFIER PANEL** — Removable for inspection of humidifier pan.

(16) **TEMPERATURE CONTROLLER** — Actuates the throttling valve to maintain a predetermined bonnet temperature.

(17) **CONTROL PANEL** — Large removable control access panel with push button type door latches.

(18) **WARM AIR OUTLET** — Less than 4½ feet above floor line, providing ample head clearance for full sweep duct elbow.

(19) **TOP PANEL** — Between supply and return connections, for inspection of filters and heating section. Can be conveniently removed for circulation of filtered basement air during the summer.

(20) **RETURN AIR CONNECTION** — Located at same level as warm air outlet.

(21) Approved Bryant draft hood.

## LARGE CAPACITY BLOWER

An extra large capacity blower is installed directly behind the heating section. The fan contains a 16-inch diameter by 16-inch width blower wheel delivering a large volume of air at very slow fan speeds.

**QUIET** — Extremely quiet operation is one of the most important features of the Model AC-78 and this quietness is the result of the extra-capacity, efficient, slow-moving fan. These standard fans will deliver additional air capacities for year-round installations.

## THROTTLING TYPE CONTROLS

Bryant control design is based on time-tested principles, and experience gained in thirty years of gas appliance manufacture.

Bryant gas-actuated throttling control system automatically regulates the gas supply in accordance with bonnet temperature. Longer periods of full air circulation, brought about by automatic reduction in the gas burning rate, eliminates stagnant air conditions and uncomfortable temperature stratification. Healthful living conditions are assured by the almost constant circulation of large quantities of filtered, tempered and humidified air.

The gas-actuated throttle valve also permits safe gravity operation during periods of electrical current failure.

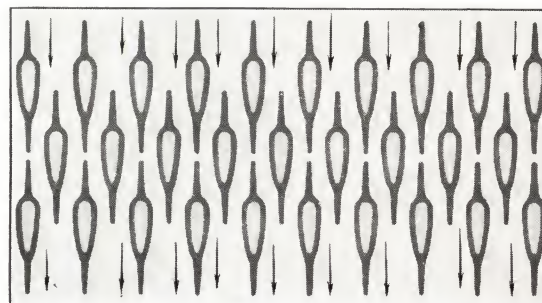


Fig. 1—Cross Section of Heating Element

## CAST IRON HEATING SECTION

The Bryant Model AC-78 heating section is made entirely of the highest grade grey cast iron. Two standard sizes with inputs of 100,000 and 132,000 B.t.u./Hr. make up the various combinations of Model AC-78 sizes. The large volume combustion chamber insures complete combustion and the flue gases are directed continually upward, eliminating possibilities of insufficient draft during starting periods. The top is easily removed for inspection and cleaning. All joints are gas tight, being accurately machined and carefully assembled at the factory.

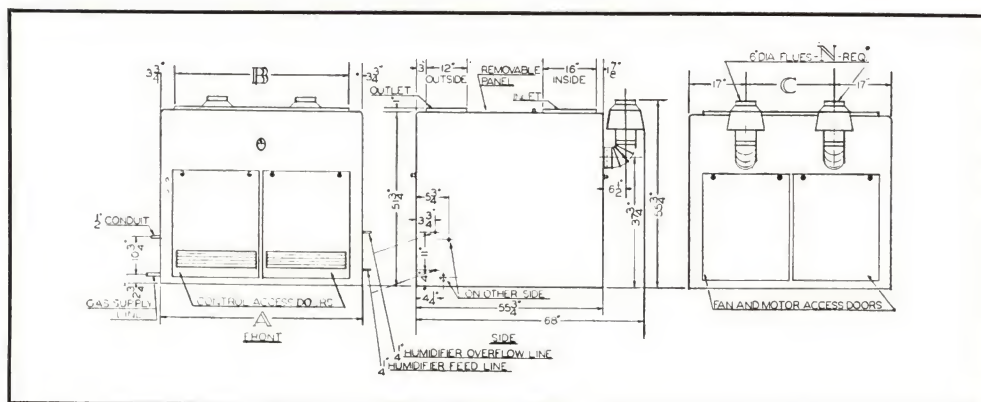
## STAGGERED AIR TRAVEL

The cast iron heat exchanger tubes are staggered and streamlined in cross section, as illustrated in Figure 1. As the hot flue gases pass upward through the interior of each tube, large volumes of air sweep over the exterior surface. This exclusive streamlined tubular design presents a minimum amount of resistance to the air flow and a maximum amount of effective heat-transfer surface (8650 sq. inches in the 132,000 B.t.u. section — proportionate amount in 100,000 B.t.u. section). This not only produces very high operating efficiencies, but also a compactness which is very important in modern basement applications.

## DIMENSIONS

Unit Number	Number and Size of Heating Sections		Overall Width A	Width of Inlet and Outlet	Width Between Flues C	Number of 6" Flues N	Size of Flue Pipe
	100,000	132,000					
100-AC-78	One	—	34"	26½"	—	One	6"
132-AC-78	—	One	34"	26½"	—	One	6"
200-AC-78	Two	—	60½"	53"	26½"	Two	8"
264-AC-78	—	Two	60½"	53"	26½"	Two	8"
300-AC-78	Three	—	87"	79½"	26½"	Three	10"
364-AC-78	One	Two	87"	79½"	26½"	Three	10"

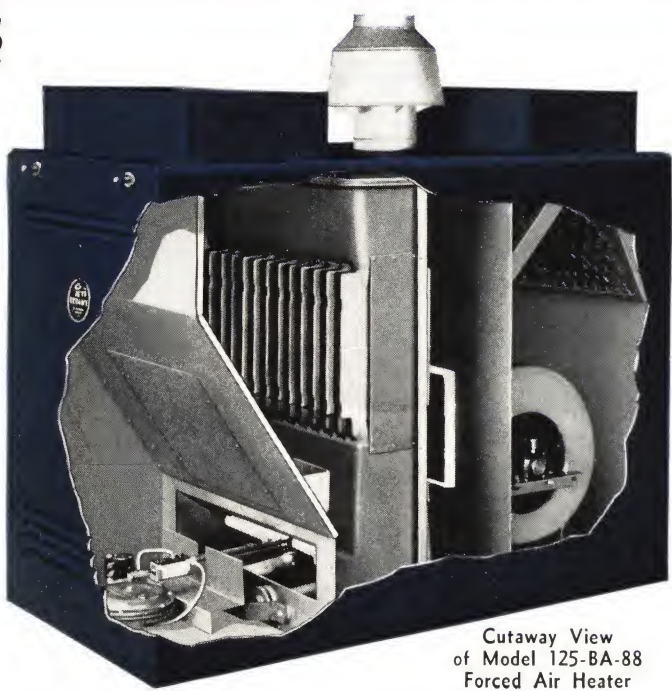
\*Dimension between each of three flues.





# The Bryant MODEL BA-88 FORCED AIR HEATER

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Cutaway View  
of Model 125-BA-88  
Forced Air Heater

## GENERAL DESCRIPTION

The Model BA-88 Forced Air Heater is a completely automatic, gas-fired unit with an all cast iron tubular heating section. Available with air filters and an automatic pan-type humidifier, as extra equipment, to provide complete winter air conditioning. Made in four standard sizes as listed under "Ratings".

It is low in cost, despite having a cast iron heating section usually offered in expensive equipment only. It is especially suitable for the small, moderately priced home. Also, for offices and stores. The heater takes little floor space, and is attractive in appearance, being completely enclosed in a Bryant Blue Crackle Finished Jacket.

The compact, fully enclosed design permits installation in the basement, attic, or main floor.

## STANDARD EQUIPMENT

- Bryant Combination Snap Valve and Pressure Regulator
- Series 10 Solenoid Valve and Transformer
- Bryant Combination Thermo Pilot
- Fan Control
- Warm Air Limit Control
- All cast iron Heating Element with Streamlined, Staggered Cast Iron Heat Exchanger Tubes
- Cast Iron Burner Heads with Raised Drilled Ports
- Centrifugal Blower Type Fan
- Rubber Mounted Fan Motor, with Built-in Motor Overload Protector
- Adjustable Motor Pulley and Belt Drive
- Bryant Blue Crackle Finished Jacket
- Large Removable Doors for access to control Chamber and Fan Assembly
- Draft Hood
- Labeled Gate Valve
- Pilot Cock with Screw Adjustment
- Provision for installation of Filters and Automatic Humidifier

Standard Equipment does not include Thermostat, Air Filters or Humidifier, but these are available as optional equipment.

## OPERATION AND CONSTRUCTION

Air is drawn into the heater through the filters by the large capacity fan and conducted through the castiron heating section. Moisture is added in passing over the heated, cast-iron evaporating pan. (Filters and humidifier are optional equipment.) The abundant supply of properly conditioned air is then delivered to the distribution system and the conditioned space.

The beautiful Bryant-blue crackle-finished jacket completely encloses the unit and is constructed of durable heavy gauge steel. The all cast iron heating section, with exclusive staggered streamlined tubes presenting minimum air resistance and maximum heat transfer surface, produces high operating efficiency. The quiet 12-inch low-speed blower provides full rates air delivery against the average duct resistance encountered. Fan and motor are mounted on heavy rubber insulators which absorb mechanical vibration. All parts are readily accessible for convenient inspection and service.

## CONTROLS

The room thermostat controls the burner operation by actuating the Bryant gas diaphragm valve. The valve will not open unless the thermostatic safety pilot is burning.

The fan operation is automatically regulated by the fan control, its operation dependent on the outlet air temperature, thus preventing delivery of cold air during starting periods.

A warm air high-limit control is provided to prevent any possibility of overheating the unit. If the outlet air temperature exceeds the setting of this control, the gas flow is automatically cut off until the temperature returns to normal.

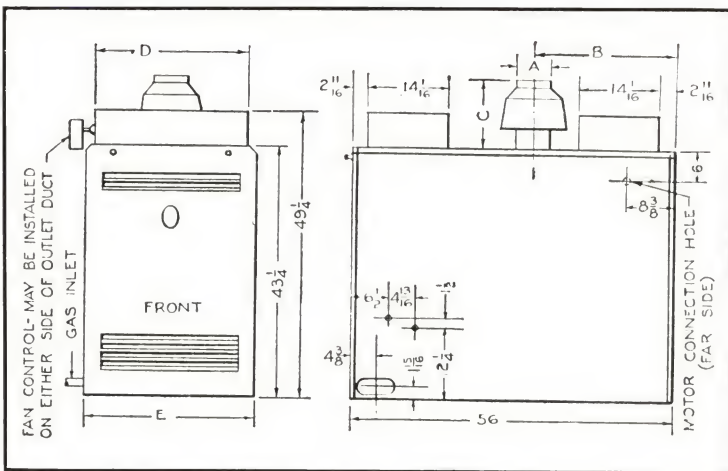
## RATINGS

Model Number	A.G.A. Ratings		Air Delivery <sup>o</sup> Cu. Ft./Min.	Motor H.P.	Approx. Wt.	
	Input B.t.u./Hr.	Output at Bonnet B.t.u. Hr.			Net	Ship
85-BA-88	85,000	68,000	850	1/4	570 lbs.	680 lbs.
100-BA-88	100,000	80,000	1000	1/4	655 lbs.	790 lbs.
125-BA-88	125,000	100,000	1250	1/4	730 lbs.	860 lbs.
170-BA-88	170,000	136,000	1700	1/2	1025 lbs.	1200 lbs.

<sup>o</sup>An adjustable motor pulley is provided to obtain rated air delivery against the normal range of duct resistances.

## DIMENSIONS

Model No.	A	B	C	D	E
85	5	27 1/2	11 3/4	26 1/8	29 1/2
100	6	27 1/2	13	26 1/8	29 1/2
125	6	27 1/2	13	26 1/8	29 1/2
170	5 (Two)	27 1/2	11 3/4	55 1/2	59 1/8





# The Bryant MODEL VB-8 VERTICAL FORCED AIR HEATER

## GENERAL DESCRIPTION

The Bryant Model VB-8 Vertical Forced Air Heater is an efficient, all cast iron heating unit usually installed directly in the heated space. Low in price, it is specially suitable for small homes and apartments, offices, stores and similar applications where floor space is at a premium. It is completely automatic.

It is approximately 2 feet square and 6 feet high and is encased in a beautiful Bryant Blue Crackle Finished Jacket.

## APPLICATIONS

The compact, fully enclosed design permits a wide variety of applications. The heater may be installed in a closet, kitchen or hallway on the main floor, in the attic wherever space is available.

**Apartment House Installations**—Ideal for individual suite installations, the unit may be located in a small closet, using a minimum of concealed duct work.

**Basement Installation**—The usual warm air delivery and cold air return ducts are required. Because of its forced air delivery system, the unit need not be centrally located as required with gravity heating plants.

**Main Floor Installations**—Warm air is discharged either into ceiling duct system or directly into the heated space through a 90° elbow and grille installed at the outlet connection. Return air is drawn into the heater at floor level, insuring good circulation and elimination of cold floors. The large capacity blower fan permits the use of small rectangular supply and return ducts, concealed in the ceiling and floor, and insures rated air delivery over a wide range of duct resistances.

**Attic Installations**—Warm air is delivered through ceiling registers and return air is drawn into ducts originating at the floor level.

## STANDARD TRIM

Bryant Combination Snap Valve and Pressure Regulator  
Cast Iron Burner Heads with Raised Drilled Ports  
Bryant Combination Thermo Pilot  
Series 10 Solenoid Valve and Transformer  
Centrifugal Blower Type Fan  
Rubber Mounted Fan Motor, Adjustable Pulley  
Bryant Blue Crackle Jacket  
Fan Control  
Built-in Motor Overload Protector  
High Limit Control  
Draft Hood  
Labeled Gate Valve  
Removable Doors for Access to Control Chamber and Fan Assembly  
All Cast Iron Heating Element with Streamlined, Staggered Cast Iron Heat Exchanger Tubes

## OPERATION

Air enters the heater from the return duct at the bottom; is forced up by the powerful blower; is guided by baffles through and around the cast iron heat exchanger tubes which heat it to a high point; and is discharged through the warm air duct at the top.

**Heating Element**—The burner heads and entire heat exchanger are of double cast iron. The cast iron heat transfer tubes are streamlined and staggered to minimize resistance to air flow and provide intimate contact and effective wiping action of the air stream over the full area of each tube. This results in high operating efficiency and large volume air delivery.

**Blower**—The fan discharge is in a vertical position. Rubber insulating pads separate it and the 1/4 H.P. motor from the unit and

absorb mechanical vibration. The large fan wheel operates at relatively low speed, insuring quiet operation. The adjustable motor pulley and belt drive permit regulation of fan speed to deliver the rated air volume.

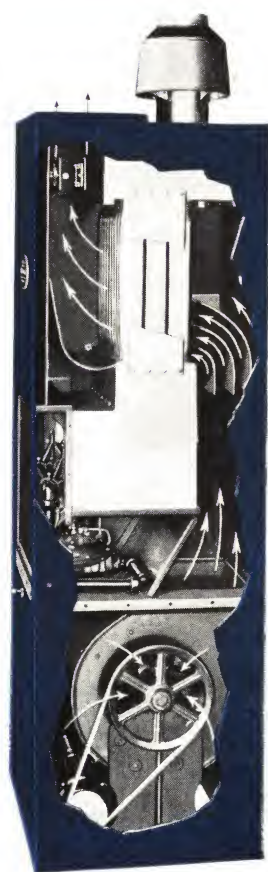
## CONTROLS

The burner operation can be controlled by means of a room thermostat. When this thermostat calls for heat, the solenoid valve opens the main gas supply valve and the burner is lighted by a thermostatic pilot. Not until the air is heated sufficiently to actuate the fan control in the bonnet does the blower operate. This prevents delivery of cold air during starting periods. A high limit control is provided to prevent overheating the unit should the fan motor fail to operate.

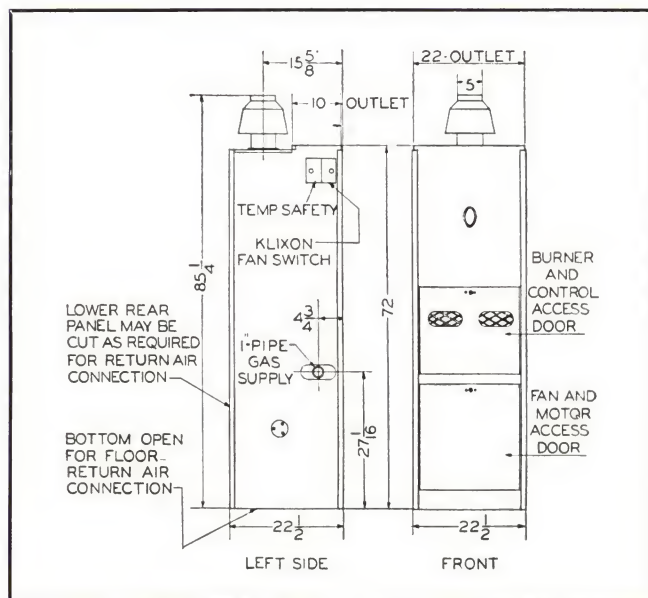
The gas supply valve is a combination snap valve and gas pressure regulator. It employs a single leather diaphragm as both a snap valve and regulator diaphragm. The regulator is the dead weight type, maintaining a constant manifold pressure. The solenoid valve cannot be energized to open the main gas supply valve unless the safety pilot is burning.

## RATINGS

A.G.A.		Air Delivery		Approx. Wt.	
Rating—B.t.u./Hr.		Cu. Ft. Per Min.	Motor H.P.	Net	Ship.
75,000	60,000	700	One 1/4	505 Lbs.	610 Lbs.



Cutaway View of Model VB-8





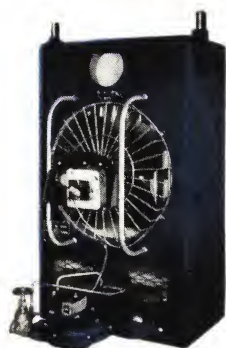
# The Bryant GAS FIRED UNIT HEATERS MODEL 85 AND 85C

26  
3

DOUBLE UNIT



SINGLE UNIT



Rear View



Front View

TRIPLE UNIT



## GENERAL DESCRIPTION

Bryant Unit Heaters are ductless, warm air heaters for offices, stores, factories and other commercial and industrial applications. These heaters are suspended from the ceiling, requiring no floor space. They are made in two models, identical in outward appearance, size, and ratings:

**MODEL 85**—Units have heavy gauge, sheet steel combustion chambers and flue collectors and steel heat exchanger tubes.

**MODEL 85-C**—Units have cast iron combustion chambers and flue collectors and chromium steel alloy heat exchanger tubes.

**TWO TYPES**—Each model is available in either of two types: *Type "A"* is standard for normal installations. *Type "AG"*, or "*Garage Type*", designed for public garages and airplane hangars, is provided with fine mesh burner doors.

**APPROVED**—Both models and types are approved by the American Gas Association and by the Underwriters' Laboratories. Bryant *Type "A"* units are designated by the underwriters as *Style "B"*, and *Type "AG"* as *Style "BH"*.

**APPEARANCE**—These heaters are enclosed in a durable steel jacket finished in beautiful Bryant Blue. Motor supports and fan guard in the rear are cadmium plated.

**SUSPENSION**—The draft hood is built-in and the flue outlet is in the rear. This permits mounting the unit close to the ceiling and eliminates unsightly draft hood connections. The hanger supports are properly placed, with relation to weight distribution, to insure perfect vertical alignment of the unit. Refinements in appearance make the Bryant Unit Heater entirely acceptable and unobtrusive in any interior setting.

**SIZES**—Bryant Unit Heaters are made in three sizes: *Single*, *Double* and *Triple*. The *Double* and *Triple* units are essentially multiples of the *Single* unit assembled in tandem. Large air capacity and resultant even temperatures are important advantages. Ratings and capacities are listed below.

## SPECIFICATIONS FOR STANDARD EQUIPMENT

Bryant Combination Gas-actuated Diaphragm Snap Valve and Gas Pressure Regulator

Labeled Gate Valve

Built-in Draft Diverter

Rear Flue Outlet

Adjustable Horizontal or Vertical Louvres (Interchangeable)

Series 10 Solenoid Valve and Transformer

Safety Limit Control

Bryant Thermostatic Pilot

Cast Iron Burner Heads with Raised Drilled Ports

Removable Burner Doors

Pilot Cock—with Screw Adjustment

Fixed Burner Orifices

Totally Enclosed Motor—Built-in Sequence Control on Number 2 and 3 Units  
Four-blade Scientifically Designed Quiet Fan—Individual Fan and Motor for each Heating Unit

Bryant Blue Crackle Finished Jacket

Steel Streamlined Heat Exchanger Tubes and Heating Unit—Model 85

Chromium Steel Alloy Streamlined Heat Exchanger Tubes and Cast Iron Combustion Chamber and Flue Collector—Model 85-C

Gate Valve

## RATINGS AND CAPACITIES

Model Number	A. G. A. Input	Vented Output Rating <sup>o</sup>		Air Delivery C.F.M.	Fan R.P.M.	Motor H.P.	Weight, Lbs.	
	B.t.u./hr.	B.t.u./hr.	Equivalent Sq. Ft. Steam Rad.				Net	Shipping
1-A-85 1-A-85C	85,000	70,550	294	1300	1140	One- $\frac{1}{20}$	200 245	240 285
2-A-85 2-A-85C	170,000	141,100	588	2600	1140	Two- $\frac{1}{20}$	360 450	435 525
3-A-85 3-A-85C	255,000	211,650	882	3900	1140	Three- $\frac{1}{20}$	500 675	600 775

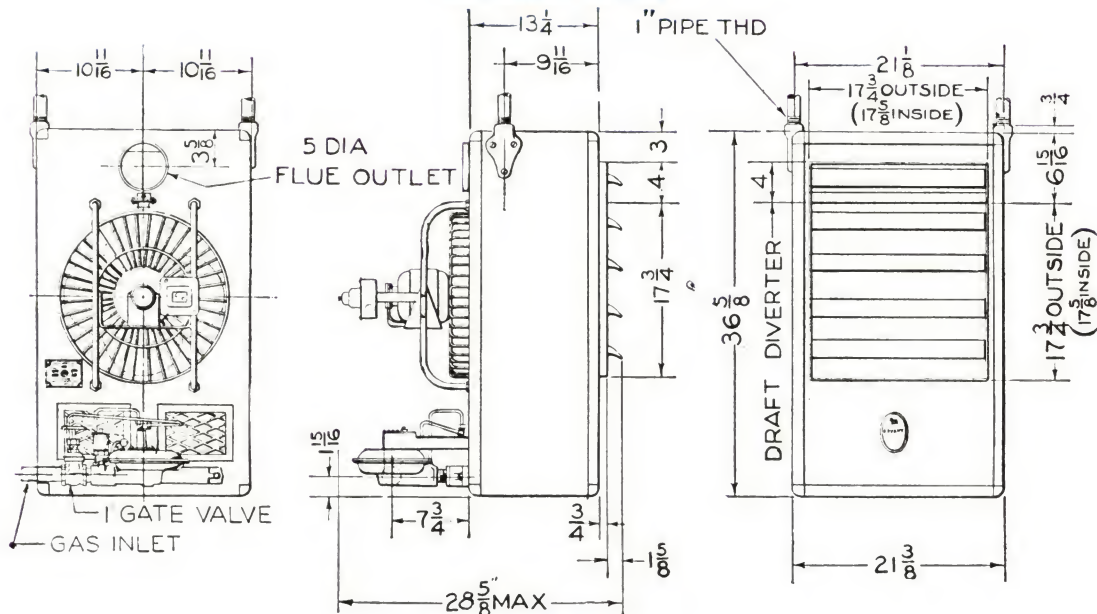
NOTE: Manufacturer's output rating based on capacity of vented unit heater located in space being heated.



# The Bryant GAS FIRED UNIT HEATERS MODEL 85 AND 85C

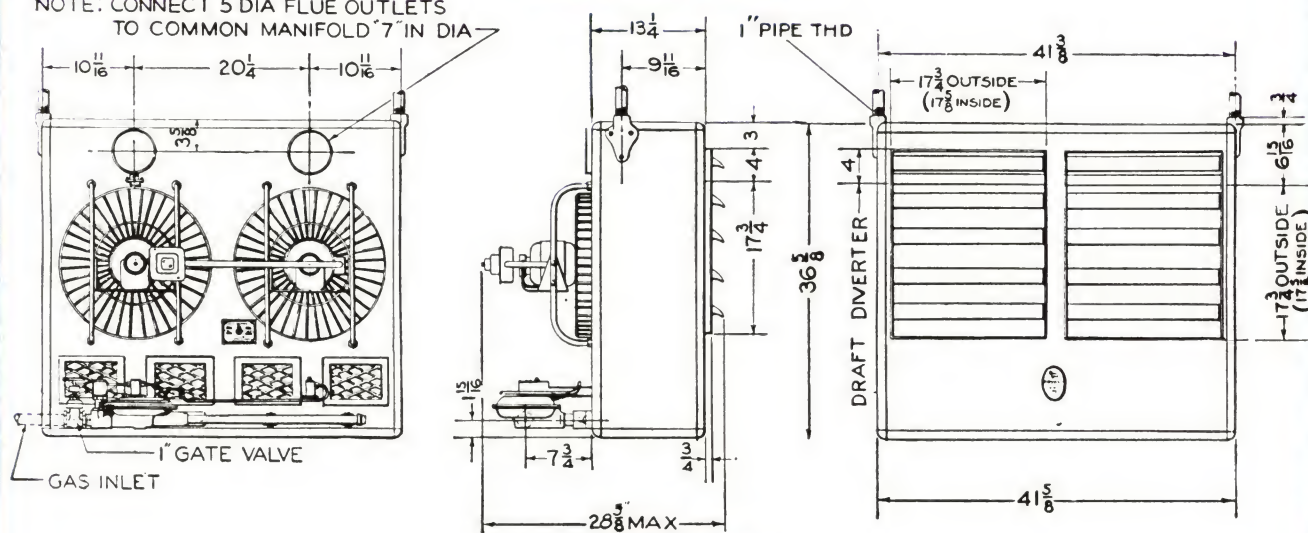
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## SINGLE UNIT



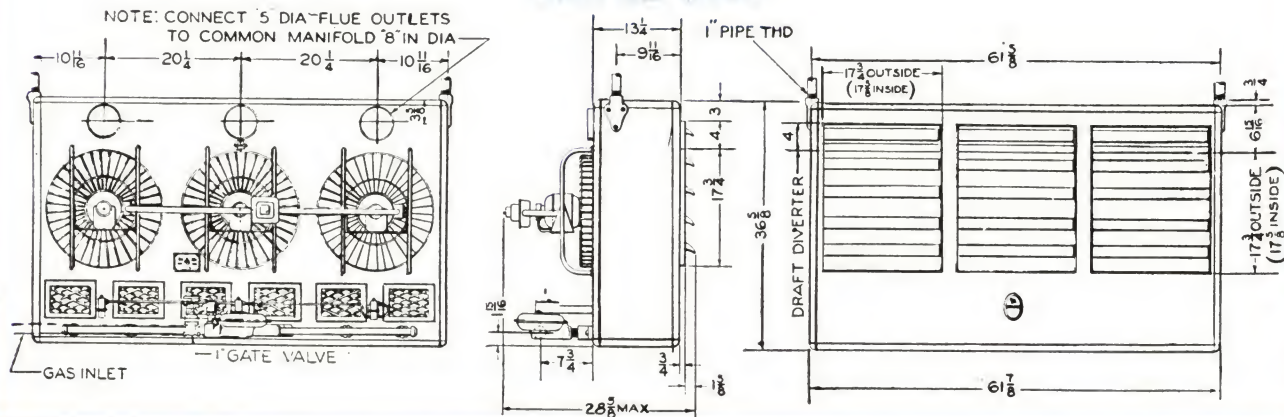
## DOUBLE UNIT

NOTE: CONNECT 5" DIA FLUE OUTLETS TO COMMON MANIFOLD 7" IN DIA



## TRIPLE UNIT

NOTE: CONNECT 5" DIA FLUE OUTLETS TO COMMON MANIFOLD 8" IN DIA



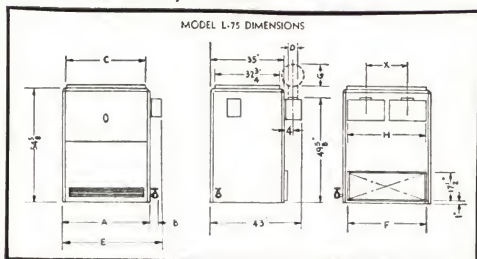


# The Bryant MODEL L-75 GRAVITY FURNACE

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Cutaway View of  
Model L-75 Gravity Furnace



The Bryant Model L-75 is available in six sizes for gravity warm air heating systems, the multiple-unit design of individual sections and burners permitting the selection of the correct size for each installation. The correct spacing of the sections provides even heat distribution and positive air circulation.

The patented Bryant controls are gas actuated—simple, trouble-free, and positive acting. The jacket of Bryant blue crackle finish completely encloses the controls, and the draft diverter is built into the jacket as an integral part . . . presenting an exterior of unusual appeal.

Large capacity cast-iron evaporating pans, located at the top of each section and controlled by an automatic float valve, provide proper humidification at all times.

## COMPLETELY FITTED WITH

Bryant Blue Crackle Finished Cover  
Built-in Draft Diverter  
Gas Operated Limit Control  
Bryant Thermostatic Pilot Control  
Bryant Escapement Burner  
Bryant Gas Pressure Regulator  
Bryant Snap Valve

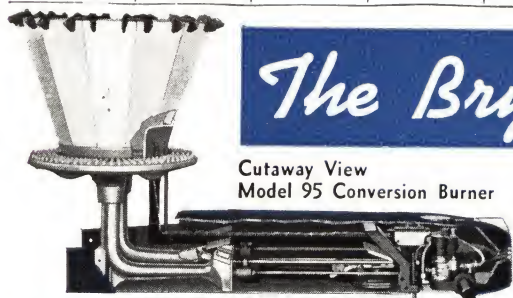
Series 10 Solenoid Valve and Transformer  
Labeled Gate Valve  
No. T 11-1 Room Thermostat  
Automatic Humidifier  
Cast Iron Evaporating Pans  
Adjustable Float Tank  
Copper Water Supply and Drain Tubing

## RATINGS

Furnace Number	A.G.A. Rating		Maximum Leader Area, Sq. In.		Approx. Shipping Weights
	B.t.u. Input	B.t.u. Output	Two Floor Plan Based on 137 B.t.u. per sq. in.	One Floor Plan Based on 111 B.t.u. per sq. in.	
2-L-75	88,000	66,000	481	594	800
3-L-75	132,000	99,000	722	892	1100
4-L-75	176,000	132,000	963	1189	1450
5-L-75	220,000	165,000	1203	1487	1750
6-L-75	264,000	198,000	1445	1783	2050
7-L-75	308,000	231,000	1686	2081	2350

## DIMENSIONS

Size	A	B	C	D	E	F	H	X	Trim and Manifold Size	Flue to Chimney G
2-L-75	32 1/4"	5"	30"	5"	38 1/8"	28"	28 1/8"	15"	1"	7"
3-L-75	47 1/4"	5"	45"	6"	53 1/8"	43"	43 1/8"	17"	1"	8"
4-L-75	62 1/4"	5"	60"	2-5"	68 1/8"	58"	58 1/8"	19"	1"	9"
5-L-75	77 1/4"	5"	75"	{ 1-5" }	83 1/8"	73"	73 1/8"	37 1/2"	1 1/4"	8"
6-L-75	92 1/4"	5"	90"	{ 1-6" }	98 1/8"	88"	88 1/8"	45"	1 1/4"	8"
7-L-75	107 1/4"	5"	105"	{ 2-5" }	113 1/8"	103"	103 1/8"	{ 30" }	1 1/4"	9"



Cutaway View  
Model 95 Conversion Burner

# The Bryant MODEL 95 CONVERSION BURNER

The Bryant Model 95 Conversion Burner will convert any coal furnace or boiler into a modern, fully automatic gas heating plant. All controls are completely enclosed. The Push Button Pilot Lighter is one of many exclusive features.

## RATINGS

### TYPE "R" ROUND BURNER

Burner Number	Rating B.t.u./Hr. Input		Minimum Firebox Diameter	Control Size	No. of Heads and Tubes	Approx. Shipping Wt., Lbs.
	Maximum	Minimum				
2-R-95	150,000	60,000	15"	1"	1	110
3-R-95	200,000	90,000	17"	1"	2	125
4-R-95	300,000	125,000	21"	1"	2	155

### TYPE "S" RECTANGULAR BURNER

Burner Number	Rating B.t.u./Hr. Input		Width	Length	Control Size	No. of Heads and Tubes	Approx. Shipping Wt., Lbs.
	Maximum	Minimum					
2-S-95	150,000	60,000	12"	15"	1"	1	80
3-S-95	200,000	90,000	15"	14"	1"	2	90
4-S-95	300,000	125,000	15"	21"	1"	2	105

## STANDARD BURNER EQUIPMENT

High Limit Control—One of following as specified on order: Bryant Steam Limit Control; Bryant Warm Air Limit Control; Bryant Hot Water Limit Control (Surface Type).

Bryant Combination Snap Valve and Gas Pressure Regulator; Bryant Blue Crackle Cover with Chromium Trim enclosing all controls; Bryant Thermo Pilot with Compensated Element; Outside Push Button Pilot Lighter complete with wiring; Automatic Dual Air Door; Adjustable Front Supporting Legs; Manifold and Piping; Adjustable Burner Orifices; Cast Iron Burner Heads with Raised Drilled Ports.

Cast Iron Machined Burner Tubes with Primary Air Shutters

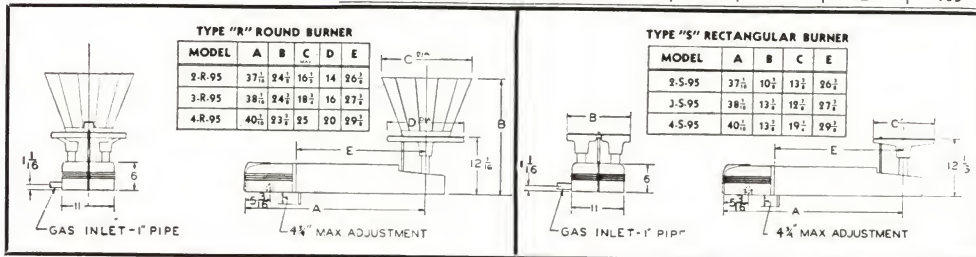
Cast Iron Baffle Bowl Containing Pilot Protecting Housing—Type "R" Burner

Self-supporting Radiant Baffles and Cast Iron Clips—Type "R" Burner

Series 10 Solenoid Valve with Manual Control Knob and Automatic Recirculating Feature

No. T 11-A Heat Accelerated Room Thermostat and Transformer

**NOTICE:** Select burner to fit fire box at grate level and adjust input to meet installation requirements.





# The Bryant GAS HEATING CONTROLS

Bryant controls are engineered exclusively for gas. Designed by Bryant Gas Combustion Engineers, they stand as a pioneering achievement. These controls represent the solutions to the problems of automatic gas control and substantiate the claims that gas is the one best fuel for automatic heating.

They are attractive in appearance, employ compactness and simplicity of construction. They are easy to install, adjust and service. Gas combustion is controlled accurately and efficiently in every type of heating system. They provide greater freedom from attention and temperature fluctuation. They are reliable, safe, and fool-proof in operation.

Rigidly inspected and tested at the factory, manufactured with the American Gas Association seal of approval, they bring to the user the best in Gas Heating Controls.



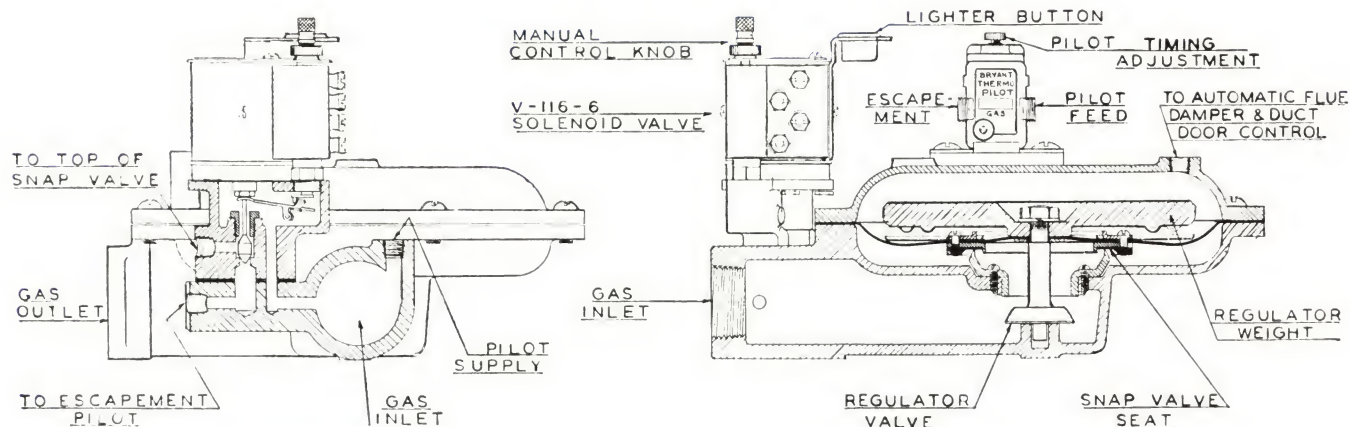
Snap Valve and Pressure Regulator  
(Basic Control)

## SNAP VALVE AND PRESSURE REGULATOR

Illustrated above is the master control valve of the Bryant control system. This combination snap valve and gas pressure regulator performs two functions: regulation of gas pressure and control of gas flow to the burners. It operates on the time tested Bryant gas-actuated principle whereby the energy of the gas is utilized to open the valve and the unfailing force of gravity to close it. Should any control in

the system cease to function, the master control valve will shut off the gas. The only moving part is the leather diaphragm. The burner ignition is positive and prompt, due to the momentary increased pilot flame and by full line pressure only at the time of lighting. The room thermostat actuates this control through the solenoid valve. All Bryant controls function around this basic valve.

## BASIC CONTROL VALVE



## THROTTLING CONTROLS

Bryant Throttling Type Controls, in addition to the basic functions of snap valve operation and automatic gas pressure regulation, provide close throttling of gas input in accordance with heat demand.

**THE STEAM THROTTLING CONTROL** is used on steam boilers to maintain a constant predetermined pressure by throttling the flow of gas to the burners when the steam reaches the desired pressure. Incorporated in this control is a high limit cut-out to shut off the gas flow should the pressure rise due to very low steam demand.

**THE VAPOR THROTTLING CONTROL** is used on boilers for vapor systems to maintain a constant predetermined pressure by throttling the flow of gas to the burners when the pressure tends to exceed the desired amount. Incorporated in this control is a high limit cut-out to shut off the gas flow should the pressure rise at very low steam demand.

**THE WATER AND WARM AIR THROTTLING CONTROL** is used to maintain a constant predetermined water or warm

air outlet temperature by throttling the flow of gas to the burners when the air or water reaches the desired temperature. Incorporated in this control is a high limit cut-out to shut off the flow of gas should the temperature continue to rise.

## LIMITING CONTROLS

**THE LOW-WATER CUT-OFF** is a safety control used on steam and vapor boilers to shut off the flow of gas to the burners when the water in the boiler reaches a predetermined low level.

**THE STEAM PRESSURE LIMIT CONTROL** is used on steam boilers and with conversion burners to shut off flow of gas under excessive steam pressures.

**THE TEMPERATURE LIMIT CONTROL** is used on water boilers, conversion burners and winter air conditioners to shut off the flow of gas to the burners when the temperature exceeds a predetermined setting.

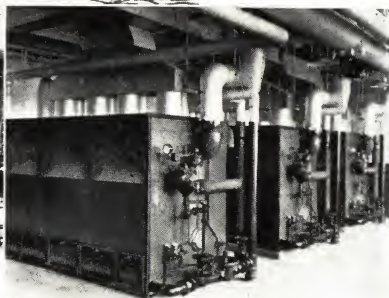
## THERMOSTATIC PILOT

The pilot assures positive lighting of the gas burners. Provided with a heat actuated element, which cools if pilot goes out and automatically shuts off gas supply to the burners.





This Apartment Heated with 151 Individual Bryant Units



Bryant "Heavy Duty" Boilers



Restaurant Air Conditioned with Bryant Equipment



Telephone Building, Heated by Bryant



Another Bryant Equipped Home

## THIRTY YEARS OF EXPERIENCE IN HEATING THOUSANDS OF BUILDINGS PROVES BRYANT ENGINEERING AND EQUIPMENT

Bryant is the pioneer in gas heating equipment. Its products are used for heating buildings of all types, in every section of the country. Residences, schools, hospitals, churches, public buildings, factories, hotels, and other structures, regardless of size, find Bryant heating convenient, dependable and economical.

For complete heating satisfaction . . . let the Bryant Pup be the furnace man . . . and weather man, too.



**THE BRYANT HEATER CO.  
CLEVELAND • OHIO**